WHAT IS CLAIMED IS:

1. An apparatus for optically scanning a scene comprising:

an emitting part adapted to project an optical emitted beam onto the scene and to move the emitted beam relative to the scene; and

a receiving part adapted to receive and detect a reflected beam arising from a reflection of the emitted beam from the scene;

wherein said emitting part comprises:

an optical radiation source adapted to generate and emit the emitted beam;

a first prism element that is bounded by plural side surfaces, and that is rotatable about a first rotation axis, and that is positioned in a beam path of the emitted beam emitted by the optical radiation source so that the emitted beam penetrates into said first prism element and is deflected by an internal total reflection of the emitted beam from a respective one of said side surfaces of said first prism element dependent on a rotational position of said first prism element.

2. The apparatus according to claim 1, wherein said first prism element is so adapted and is positioned in the beam path of the emitted beam so that the emitted beam is further deflected by refraction upon penetrating into and/or upon exiting from said first prism element, whereby a total deflection of the emitted beam caused by said first

prism element includes the refraction and the internal total reflection of the emitted beam.

3. The apparatus according to claim 1, wherein said emitting part includes only a single rotatable prism being said first prism element and does not include any other rotatable prism in the beam path of the emitted beam between said optical radiation source and the scene.

4. The apparatus according to claim 1, wherein said emitting part further comprises a first lens arrangement that is interposed in the beam path of the emitted beam between said first prism element and the scene, and that is adapted to focus the emitted beam onto the scene.

5. The apparatus according to claim 1, wherein said receiving part comprises:

a photodetector adapted to detect the reflected beam; and

a second prism element that includes plural side surfaces and has a same configuration as said first prism element, and that is rotatable about a second rotation axis synchronously and in a same rotation direction as a rotation of said first prism element about said first rotation axis, and that is positioned in a beam path of the reflected beam coming from the scene so that the reflected beam penetrates into said second prism element and is deflected by an internal total reflection of the reflected

beam from a respective one of said side surfaces of said second prism element dependent on a rotational position of said second prism element, and the reflected beam is thereby directed onto said photodetector.

6. The apparatus according to claim 5, wherein said receiving part further comprises a second lens arrangement that is interposed in the beam path of the reflected beam between the scene and said second prism element, and that is adapted to focus the reflected beam.

7. The apparatus according to claim 5, wherein said first prism element and said second prism element are respective discrete individual first and second prism bodies, and wherein said first rotation axis and said second rotation axis are spaced apart and parallel relative to one another.

8. The apparatus according to claim 5, wherein said first prism element and said second prism element are respective discrete individual first and second prism bodies, and wherein said first rotation axis and said second rotation axis are coincident with one another along a single axis.

9. The apparatus according to claim 5, wherein said first prism element and said second prism element are respective first and second portions of a single monolithic prism body, and wherein said first rotation axis and said second

rotation axis are coincident with one another along a single axis.

10. The apparatus according to claim 1, wherein said plural side surfaces of said first prism element are respectively tilted at respective different tilt angles relative to said first rotation axis, such that the emitted beam is deflected respectively along different deflection planes at different angles relative to said first rotation axis by the internal total reflection of the emitted beam respectively by different ones of said side surfaces as said first prism element rotates.

11. The apparatus according to claim 10, wherein said tilt angles are selected so that said deflection planes respectively give rise to plural scanning lines of the emitted beam being scanned successively across the scene, without gaps between successive ones of the scanning lines.

12. The apparatus according to claim 10, wherein said first prism element has a total of exactly three of said side surfaces, which respectively have said different tilt angles being 2°, 3° and 4° respectively.

13. A method of using the apparatus according to claim 1, comprising the steps:

a) projecting said emitted beam from said emitting part onto said scene being a scene of an environment surrounding a motor vehicle;

b) receiving said reflected beam with said receiving part;

c) evaluating said reflected beam by pattern recognition of a progression of reflection values of said reflected beam over time, so as to recognize objects in said environment surrounding said motor vehicle.

14. A method of using the apparatus according to claim 1, comprising the steps:

a) projecting said emitted beam from said emitting part onto said scene being a scene of an environment surrounding a motor vehicle;

b) receiving said reflected beam with said receiving part;

c) evaluating a transit time of a signal pulse emitted in said emitted beam and received as a reflection in said reflected beam to determine therefrom a spacing distance between said motor vehicle and an object in said environment surrounding said motor vehicle; and

d) depending on and responsive to said spacing distance determined in said step c), emitting a warning or actuating a spacing distance regulation.

15. An apparatus for optically scanning a scene comprising:

an emitting part adapted to project an optical emitted beam onto the scene and to move the emitted beam relative to the scene; and

a receiving part adapted to receive and detect a reflected beam arising from a reflection of the emitted beam from the scene;

wherein said emitting part comprises:

a first prism element that is rotatable about a first rotation axis, and that is bounded by plural side surfaces which are respectively tilted at different tilt angles relative to said first rotation axis; and

an optical radiation source adapted to generate the emitted beam and arranged to emit the emitted beam toward said first prism element so that the emitted beam penetrates into said first prism element and is deflected by an internal total reflection from a respective one of said side surfaces.

16. A method of optically scanning a scene, comprising the steps:

a) generating and emitting an emitted beam of light;

b) rotating a first prism element bounded by plural side surfaces about a first rotation axis; and

c) deflecting said emitted beam onto said scene using said first prism element, wherein said deflecting comprises penetrating said emitted beam into said first prism element and internally reflecting said

emitted beam in said first prism element by a total reflection of said emitted beam from a respective one of said side surfaces;

wherein said rotating of said first prism element during said deflecting causes said emitted beam to be moved over said scene.

17. The method according to claim 16, wherein said deflecting of said emitted beam further comprises refracting said emitted beam upon entering into and/or exiting from said first prism element.

18. The method according to claim 16, further comprising, after said step c), projecting said emitted beam through a first lens arrangement onto said scene.

19. The method according to claim 16, further comprising reflecting at least a portion of said emitted beam from said scene to form a reflected beam, and deflecting said reflected beam by an internal total reflection thereof in said first prism element or in a second prism element having the same configuration as said first prism element so as to direct said reflected beam onto a photodetector.

20. The method according to claim 19, further comprising passing said reflected beam through a second lens arrangement.

21. The method according to claim 19, wherein said deflecting of said reflected beam comprises using said second prism element, and further comprising rotating said second prism element with the same rotation speed in the same rotation direction as said first prism element about said first rotation axis or about a second rotation axis parallel to said first rotation axis.

22. The method according to claim 16, wherein said plural side surfaces of said first prism element are respectively oriented with respective different tilt angles relative to said first rotation axis, and wherein said deflecting comprises successively reflecting said emitted beam from successive ones of said side surfaces in succession as said first prism element is rotated, whereby said successive ones of said side surfaces respectively reflect said emitted beam along respective differently angled deflection planes dependent on said different tilt angles, and said differently angled deflection planes respectively give rise to successive scan lines of said emitted beam being moved over said scene.

23. The method according to claim 16, wherein said step a) comprises generating said emitted beam as a beam of laser light.

24. The method according to claim 16, further comprising determining a spacing distance between a motor vehicle and an object in said scene being an environment in front of said vehicle by evaluating a reflected signal arising from a reflection of said emitted beam from said object.